



**ALASKA DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION  
AIR QUALITY CONSTRUCTION PERMIT**

Permit No. 9923-AC010 Revision 1

December 31, 2002

The Department of Environmental Conservation, under the authority of AS 44.19, AS 46.14, 6 AAC 50, and 18 AAC 50.315, issues an Air Quality Construction Permit to:

**Owner:** Tesoro Alaska Company  
3230 C Street  
P.O. Box 196272  
Anchorage, AK 99519-6272

**Operator:** Tesoro Alaska Company-Kenai Refinery  
P.O. Box 3369  
Kenai, AK 99611  
Rodney Cason, Vice President, Refining

**Facility:** The facility is a petroleum refinery and is physically located at Mile 22.5, Kenai Spur Highway, Nikiski, AK.

**Permit Description:** This permit would revise the permit terms and conditions of Air Quality Control Permit to Operate No. 9923-AA010 through Exhibit F. Tesoro proposed to install Soil Vapor Extraction Systems equipped with thermal oxidation units. Tesoro proposed operational limits on firewater pumps P 708A and P 708 B.

This proposal is classified under 18 AAC 50.300(h)(2) and 18 AAC 50.305(a)(3) and (4).

A complete description of this permit action can be found in the Technical Assessment Report.

---

John Kuterbach, Manager  
Air Permits Program

## Table of Contents

|  |           |
|--|-----------|
| <b>PERMIT TERMS AND CONDITIONS .....</b>   | <b>3</b>  |
| <b>A. Permit Continuity 18 AAC 50.340(i).....</b>  | <b>3</b>  |
| <b>B. Standard Permit Conditions .....</b>   | <b>3</b>  |
| <b>C. Record Keeping, Reporting, and Testing Conditions .....</b>  | <b>4</b>  |
| <b>D. Approvals to Modify the Facility: .....</b>  | <b>6</b>  |
| <b>E. Avoiding Classification of 18 AAC 50.300(h)(3) using 18 AAC 50.305(a)(4) for Sources Nos.<br/>H-403 and H-101B .....</b> | <b>7</b>  |
| <b>F. New Source Performance Standards:.....</b>   | <b>9</b>  |
| <b>G. State Emission Standards 18 AAC 50.055: Industrial Processes and Fuel-burning Equipment .....</b>                        | <b>9</b>  |
| <b>H. Air Pollution Prohibited, 18 AAC 50.110.....</b>   | <b>11</b> |
| <b>I. 18 AAC 50.315 (e) (3) (A): Best Available Control Technology (BACT) .....</b>  | <b>11</b> |
| <b>J. 18 AAC 50.346 (a) (1): Standard Permit Condition I – Emission Fees .....</b>   | <b>11</b> |
| <b>K. Approval to install Soil Vapor Extraction Systems and Thermal Oxidation Units.....</b>                                   | <b>12</b> |
| <b>EXHIBIT A: SOURCE INVENTORY.....</b>  | <b>13</b> |
| <b>EXHIBIT B: AIR CONTAMINANT EMISSION LIMITS, STANDARDS, FUEL<br/>SPECIFICATIONS, AND OPERATING LIMITS .....</b>              | <b>16</b> |
| <b>EXHIBIT C: PROCESS MONITORING REQUIREMENTS.....</b>   | <b>23</b> |
| <b>EXHIBIT D: FACILITY OPERATING REPORT .....</b>  | <b>26</b> |
| <b>EXHIBIT E: PERMIT DOCUMENTATION.....</b>  | <b>29</b> |
| <b>EXHIBIT F: EXCESS EMISSION NOTIFICATION FORM.....</b>   | <b>33</b> |

## **PERMIT TERMS AND CONDITIONS**

### **A. Permit Continuity 18 AAC 50.340(i)**

1. Except as revised herein, or as superseded by an Air Quality Permit issued under the authority of AS 46.14.170, the permittee shall comply with terms and conditions of Air Quality Control Permit to Operate No. 9323-AA008 as amended through November 18, 1996. This permit action rescinds Permit No. 9723-AC004, but retains the terms and conditions of which are incorporated herein with amendments as noted.
2. If permit terms and conditions listed in this permit conflict with those of Air Quality Control Permit to Operate No. 9323-AA008, permittee shall comply with terms and conditions listed herein.
3. Condition 8 of Permit to Operate No. 9323-AA008 is rescinded. Condition 8 states: "Permittee must operate the groundwater remediation system air strippers, sources AS 1310 and 1320, at not less than 99.5 percent removal efficiency of benzene, toluene, and xylene."
4. Condition 9 of Permit to Operate No. 9323-AA008 is rescinded. Condition 9 states: "Permittee must limit the air flow through the air stripper AS 1310 to less than 4,450 actual cubic feet per minute, and must limit the air flow through air stripper AS 1320 to less than 12,500 actual cubic feet per minute."
5. Exhibits A & B of Permit to Operate No. 9723-AC004 are placed in Exhibits A & B of this permit.
6. Exhibit E in this permit is a continuation and addendum to Exhibit F, Permit Documentation of Permit to Operate No. 9323-AA008.

### **B. Standard Permit Conditions**

7. The permittee must comply with each permit term and condition; noncompliance constitutes a violation of AS 46.14, 18 AAC 50, and the Clean Air Act and is grounds for:
  - 7.1 An enforcement action;
  - 7.2 Permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or
  - 7.3 Denial of an operating permit application.
8. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.
9. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.
10. Compliance with the permit terms and conditions is considered to be compliance with those requirements that are:
  - 10.1 Included and specifically identified in the permit; or
  - 10.2 Determined in writing in the permit to be inapplicable.
11. The permit may be modified, reopened, revoked and reissued, or terminated for cause; a request by the permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

12. The permit does not convey any property rights of any sort, nor any exclusive privilege.
13. The permittee shall allow an officer or employee of the department, or an inspector authorized by the department, upon presentation of credentials and at reasonable times, with the consent of the owner or operator, to:
  - 13.1 Enter upon the premises where a source subject to the construction permit is located or where records required by the permit are kept;
  - 13.2 Have access to and copy any records required by the permit;
  - 13.3 Inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit; and
  - 13.4 Sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.
14. The permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit, or to determine compliance with the permit; upon request, the permittee shall furnish to the department copies of records required to be kept; the department, in its discretion, will require the permittee to furnish copies of those records directly to the federal administrator.

### **C. Record Keeping, Reporting, and Testing Conditions**

The permittee shall:

15. Certify all reports, compliance certifications, or other documents submitted to the department under this permit or Permit to Operate No. 9323-AA008 as required by 18 AAC 50.205.
16. Submit three copies of all reports, certifications, notices, and test plans required under Conditions 16, 17, 18 of Section C, Condition 23 of Section D, Conditions 25, 26, 27, 28 of Section E, Condition 29 of Section F, and Exhibit D of Permit to Operate No. 9323-AA008; and this permit to the department's Air Compliance Office at 610 University Avenue, Fairbanks, AK 99709; telephone (907) 451-2139; facsimile (907) 451-2187.
17. Keep records of required monitoring data and support information for at least five years after the date of the collection; support information includes calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of reports required by this permit. Keep monitoring and compliance records as required by the Clean Air Act and applicable federal air quality regulations.
18. If requested by the department, conduct source tests of unit exhausts and report results as described in 18 AAC 50.220. Comply with all applicable federal requirements, and:
  - 18.1 Use the applicable test methods set out in 40 CFR Part 60, Appendix A, effective July 1, 1997, to ascertain compliance with applicable standards and permit requirements;
  - 18.2 Submit to the department, within 60 days after receiving a request, and at least 30 days before the scheduled date of the tests, a complete plan for conducting the source tests;
    - 18.2.1 Give the department written notice of the tests 10 days before each series; and

- 18.2.2 Within 45 days after completion of the set of tests, submit the results, to the extent practical, in the format set out in *Source Test Report Outline* in Volume III, Section IV.3, of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8).
19. Conduct visible emissions Surveillance (Percent Opacity) in accordance with procedures set out in Reference Method 9 as specified in 40 CFR, Part 60, Appendix A, effective July 1, 1997. For emission units subject to only visible emission standards set out in 18 AAC 50.050(a) or 50.055(a), the permittee is not required to reduce observation data as set out in 40 CFR 60 Appendix A, Paragraph 2.5.
  20. The permittee may seek department approval of alternates to the monitoring, record keeping, and reporting requirements of this permit by submitting a written request to the department. Until the department approves an alternative of a monitoring, record keeping, or reporting requirement, the permittee shall comply with the requirements listed in this permit.
  21. Install, calibrate, conduct applicable continuous monitoring system performance tests listed in 40 CFR 60, Appendix B, effective July 1, 1997, and certify test results; operate; and maintain air contaminant emissions and process monitoring equipment on the sources as described herein, in documents provided by the permittee, and as listed in Exhibit E of this permit. Submit monitoring equipment siting, operation, maintenance plans, and procedures for approval by the department.

For continuous emission monitoring systems, comply with each applicable monitoring system requirement as listed in 40 CFR 60.13, 60.19, 40 CFR 60, Appendix A, Method 19, Appendix B, Performance Specifications 2 and 6, and Appendix F, and the *EPA Quality Assurance Handbook For Air Pollution Measurements*, EPA/600 R-94/038b, effective July 1, 1997. Attach to the Facility Operating Report required by Condition 29 of Permit to Operate No. 9323-AA008: 1) a copy of each quarterly continuous emission monitoring system data assessment report for Quality Assurance Procedures conducted in accordance with 40 CFR 60, Appendix F; and 2) a copy of each quarterly monitoring systems performance report in accordance with 40 CFR 60.7.

22. Excess emission reporting--Report excess emissions that present a potential threat to human health or safety as soon as possible to the department's Division of Spill Prevention and Response (SPAR). From 8:00 AM to 4:30 PM, report the event to SPAR by telephone at (907) 269-7500, or by facsimile at (907) 269-7648. Outside of this time, report the event to SPAR by telephone at (800) 478-9300. Please provide a complete description of the event and any assistance required from the department.
23. Excess emission reporting--In addition to reporting under Condition 22:
  - 23.1 Give written notice of all excess emissions or deviations from permit requirements. Submit the notice as soon as possible and no later than two working days after the event commencement or discovery, to the department's Air Permit Program, Attention--Excess Emission Report, 555 Cordova Street, Anchorage, AK 99501, by facsimile (907) 269-7508, or by e-mail to [airreports@envircon.state.ak.us](mailto:airreports@envircon.state.ak.us). Complete and submit the Excess Emission Report (EER) form

provided in Exhibit F, or provide an alternative written notice with complete information for each element listed in the EER form. Except as provided for in Condition 23.2, certify the written notice in accordance with 18 AAC 50.205;

23.2 The permittee may certify the EER in accordance with 18 AAC 50.205 by attaching to the periodic Facility Operating Report required by Condition 29 of Permit to Operate No. 9323-AA008, a copy of the EER with the certification statement and signature of the responsible official.

24. Keep a copy of this permit, the State Air Quality Control Regulations 18 AAC 50, and Alaska Statutes 46.14, at the permitted facility.

**D. Approvals to Modify the Facility:**

25. The permittee is authorized to replace the heater for the Hydrocracker, Source No. H-403. The rated capacity of replacement heater shall not exceed 50 MMBtu/hr heat input.

26. The permittee is authorized to modify the Crude Heater, Source No. H-101B. The rated capacity of the modified heater shall not exceed 165 MMBtu/hr heat input.

27. The permittee is authorized to increase the capacity of the Sulfur Recovery Unit, and Heaters H-1101, 1102, 1103, 1104, and 1106, as set out in Exhibit A of this permit.

28. Approvals for Alternate Fuels:

28.1 For sources H701, H702, H801, H802, H1001, H1101 through H1106, and H1201 through H1203:

28.1.1 Only burn, in any combination and as needed, Liquid Petroleum Gas (LPG), Refinery Gas, or Natural Gas.

28.2 For sources GT1400 and GT1410:

28.2.1 Burn #2 fuel oil, up to a maximum of 438 hours per year in each unit; and

28.2.2 Use only Liquid Petroleum Gas, Natural Gas, or any combination of these fuels, with no operational restriction.

29. The permittee may increase the operating hours of source P 708 C from 200 to 600 hours per year.

30. Approval to modify air strippers:

30.1 Install a thermal oxidation emission control unit at AS 1320 for normal operation. Retain the Granular Activated Carbon control unit for use during periods when the thermal unit is not in operation.

30.1.1 Maintain a setpoint temperature of 1500°F in the thermal oxidation unit. When the temperature is less than the setpoint, either shut down AS 1320 or route exhaust gas to the Granular Activated Carbon unit.

30.2 Operate AS 1310 with no atmospheric venting, or control exhaust with Granulated Activated Carbon unit.

30.3 Limit air flow through AS 1310 to less than 4,450 actual cubic feet per minute;

30.4 Limit airflow through AS 1320 to 12,500 actual cubic feet per minute.

- 30.4.1 Limit airflow through AS 1320 thermal oxidation unit to 6000 actual cubic feet per minute.
- 30.5 Benzene, Toluene, Xylene (BTX) emission rates from AS 1310 shall not exceed 0.24 mg/sec; and
- 30.6 BTX emission rates from AS 1320 shall not exceed 0.94 mg/sec.
- 31. For record keeping and reporting purposes:
  - 31.1 Record and report in the quarterly operating report, fuel used, as set out in Permit to Operate 9323-AA008 Exhibit D, Facility Operating Report, Items 3a and 3b.
  - 31.2 For sources GT1400 and GT1410:
    - 31.2.1 Record and report in the quarterly operating report, #1 or #2 diesel firing time during each month.
  - 31.3 Continuously monitor setpoint temperature to meet design and Destruction Removal Efficiency in combustion chamber of the thermal oxidizer of AS 1320, and report in the quarterly operating report the daily average temperature, the times when the incinerator temperature falls below the setpoint, and the reason for each incident; and
  - 31.4 For periods during which AS 1310 directly vents to the atmosphere and for periods during which AS 1320 emissions are not controlled by the thermal oxidation unit, weekly analyze BTX mass emissions and concentration at outlet with gas chromatography as set out in Method 18, 40 CFR 60 or an alternative methodology approved under Condition 20. Report the following criteria and results in the quarterly operating report.
    - 31.4.1 Air flow during sampling time – scf/min
    - 31.4.2 Temperature at sampling site – Fahrenheit
    - 31.4.3 BTX concentration as determined by gas chromatogram-ppb
    - 31.4.4 BTX mass emission - mg/sec
  - 31.5 For AS 1320 analyze BTX mass emissions and concentration at outlet with gas chromatography as set out in Method 18, 40 CFR 60 or an alternative methodology approved under Condition 20 within 90 days after initial start-up of the incinerator controls. Report the following criteria and results in the quarterly operating report.
    - 31.5.1 Air flow during sampling time – scf/min
    - 31.5.2 Temperature at sampling site – Fahrenheit
    - 31.5.3 BTX concentration as determined by gas chromatogram-ppb
    - 31.5.4 BTX mass emission - mg/sec

**E. Avoiding Classification of 18 AAC 50.300(h)(3) using 18 AAC 50.305(a)(4) for Sources Nos. H-403 and H-101B**

- 32. Emission Limits:
  - 32.1 Permittee shall install, maintain, and operate low NO<sub>x</sub> burners on the replacement heater for the Hydrocracker, Source No. H-403, and the crude heater, Source No. H-101B. The permittee shall ensure the NO<sub>x</sub> emissions from the burners do not exceed 0.06 lb NO<sub>x</sub>/MMBtu heat input.

32.2 Prior to operating the replacement heater for the Hydrocracker and other equipment at the higher capacities allowed by this permit, the permittee shall ensure that the low NO<sub>x</sub> burners required by Condition 32.1 of this permit are installed.

33. Monitoring

33.1 Within 90 days after actual start-up of the new Hydrocracker Heater, Source No. H-403, and the modified Crude Heater, Source No. H-101B, the permittee shall determine compliance with the NO<sub>x</sub> emission limits by conducting one set of nitrogen oxides source tests on each of the exhaust stacks in accordance with Condition 18 of this permit. During these tests, the permittee shall:

33.1.1 measure and record fuel consumption of each heater unit;

33.1.2 sample and analyze the fuel used during the test to determine High Heat Value; and

33.1.3 calculate and report the results of emission tests, in terms of lb NO<sub>x</sub> /MMBtu fuel input, to ascertain compliance with the nitrogen oxide emission limit.

34. Reporting:

34.1 The permittee shall submit the results of the source tests conducted under Condition 33.1, in accordance with Condition 18 of this permit.

34.2 Within 45 days after receipt, the permittee shall submit to the department a copy of the manufacturer's NO<sub>x</sub> emission level certification for the burners in the modified Crude Heater, including a copy of the testing protocols, the testing company's report, and the manufacturer's burner specification sheets.



**F. New Source Performance Standards:**

The permittee shall:

35. Comply with all emission control, testing, monitoring, record keeping, and reporting requirements listed in 40 C.F.R. 60, New Source Performance Standards (NSPS), effective July 1, 1997, incorporated by reference in 18 AAC 50.040, as applicable to the equipment identified below.
  - 35.1 40 CFR 60, Subpart A. All NSPS affected facilities at the Nikiski Refinery.
  - 35.2 40 CFR 60, Subpart J. Source Nos. H-101B, H-201 through H-205, H-401 through H-404, H-612, H-704, H801, H802, H1001, H1201/3, H1202, H1701, and J-801.
  - 35.3 40 CFR 60, Subpart GG. Sources Nos. GT-1400 and GT-1410.
  - 35.4 40 CFR 60, Subpart GGG, including those sections of 40 CFR 60, Subpart VV incorporated by reference in Subpart GGG. All NSPS affected facilities at the Nikiski Refinery.
36. The permittee shall comply with the applicable provisions of 40 CFR 60, Subpart A – General Provisions. The provisions of 40 CFR 60, Subpart A are incorporated into this permit and listed in Exhibit G.
37. The permittee shall comply with the applicable provisions of 40 CFR 60, Subpart J – Standards of Performance for Petroleum Refineries. The provisions of 40 CFR 60, Subpart J are incorporated into this permit and listed in Exhibit H.
38. The permittee shall comply with the applicable provisions of 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines. The provisions of 40 CFR 60, Subpart GG are incorporated into this permit and listed in Exhibit I.
39. The permittee shall comply with the applicable provisions of 40 CFR 60, Subpart VV – Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, incorporated by reference in Subpart GGG. The provisions of 40 CFR 60, Subpart VV are listed in Exhibit J.
40. The permittee shall comply with the applicable provisions of 40 CFR 60, Subpart GGG – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries. The provisions of 40 CFR 60, Subpart GGG are incorporated into this permit and listed in Exhibit K.
41. Submit a copy of all NSPS reporting to the U.S. EPA Region 10 and the department's Compliance Office, as required by the applicable Federal standards. The permittee may attach periodic federal reporting to the Facility Operating Report required by Condition 29 and Exhibit D of Permit to Operate No. 9323-AA008;
42. Notify the department of any U.S. Environmental Protection Agency – (EPA) granted waivers of NSPS emission standards, record keeping, monitoring, performance testing, or reporting requirements within 30 days after the permittee receives a waiver.

**G. State Emission Standards 18 AAC 50.055: Industrial Processes and Fuel-burning Equipment**

43. The permittee shall comply with the following emission limits:

- 43.1 Visible Emissions, 18 AAC 50.055(a)(1) and 40 CFR 52.70(c)(28):  
Visible emissions, excluding condensed water vapor, may not reduce visibility through the exhaust by any of the following:
  - 43.1.1 greater than 20% for a total of more than three minutes in any one hour; or
  - 43.1.2 more than 20% averaged over any six consecutive minutes;
- 43.2 Particulate Matter Emissions, 18 AAC 50.055(b)(1): Particulate matter emissions may not exceed 0.05 grains per cubic foot of exhaust corrected to standard conditions and averaged over three hours; and
- 43.3 Sulfur Dioxide Emissions, 18 AAC 50.055(d)(3): Sulfur dioxide emissions, averaged over three hours, may not exceed the following:
  - 43.3.1 The concentration of uncontrolled emissions that would result from burning fuel gas containing 230 milligrams hydrogen sulfide per dry standard cubic meter when burning only fuel gas;
  - 43.3.2 500 ppm when not burning fuel gas; or
  - 43.3.3 A concentration based on the allowable emissions of Conditions 43.3.1 and 43.3.2, prorated by the proportion of fuel gas and other fuels burned.
- 43.4 To comply with the SO<sub>2</sub> emission limit, ensure the following fuels do not exceed:
  - 43.4.1 162 ppm or 238 mg/dscm hydrogen sulfide (H<sub>2</sub>S) in Refinery Gas;
  - 43.4.2 0.01% sulfur by weight in LPG;
  - 43.4.3 0.01% H<sub>2</sub>S by volume in Natural Gas; and
  - 43.4.4 0.35% sulfur by weight in diesel.
- 43.5 Monitoring & Reporting:
  - 43.5.1 Conduct visible emission, particulate matter, or sulfur dioxide source tests and report results in accordance Condition 18 of this permit, upon department request;
  - 43.5.2 Operate a fuel gas analyzer at a point(s) representative of the fuel gas stream to determine compliance with the sulfur dioxide emission limit of this permit, in accordance with fuel sulfur conditions in 40 CFR 60 Subpart J and GG, and Condition 43.3 and Exhibit B of this permit; and
  - 43.5.3 Report the monthly average and high fuel gas concentration of sulfur as a percentage and in µg/dscm in the quarterly operating report.

**H. Air Pollution Prohibited, 18 AAC 50.110**

44. The permittee shall comply with 18 AAC 50.110, which states that no person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or would unreasonably interfere with the enjoyment of life or property. The permittee shall:
- 44.1 Attach to the Facility Operating Report a written description of each public complaint regarding the Kenai Refinery emissions received as a telephone call to or letter directed to Tesoro Alaska, Inc., or its subsidiary corporations. Include in the description the date, time, nature of complaint, and measures taken to resolve the complaint;
  - 44.2 Take reasonable actions to address air pollution complaints resulting from emissions at the facility; and
  - 44.3 Notify the department in advance of any planned modification or replacement of the fuel burning equipment, which might result in increased potential air contaminant emissions. The notification must be in writing and must include a description of the proposed change, and an estimate of any change in the quantity of emissions of each regulated air contaminant that may occur as the result of the modification or replacement.

**I. 18 AAC 50.315 (e) (3) (A): Best Available Control Technology (BACT)**

45. Sulfur BACT
- 45.1 Comply with the fuel sulfur limits as set in Condition 43.4 and Exhibit B of this permit.
  - 45.2 Monitoring and Record Keeping
    - 45.2.1 SO<sub>2</sub>--Conduct fuel sulfur monitoring and record keeping in accordance with Condition 43.5.2 of this permit.
  - 45.3 Reporting:
    - 45.3.1 SO<sub>2</sub>--Report fuel sulfur content as recorded under Condition 43.5.2 and Exhibit C of this permit.

**J. 18 AAC 50.346 (a) (1): Standard Permit Condition I – Emission Fees**

46. **Assessable Emissions.** The permittee shall pay to the department annual emission fees based on the facility's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air contaminant that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of
- 46.1 the facility's assessable potential to emit of 2,371.8 tpy; or
  - 46.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the department, when demonstrated by
    - a. an enforceable test method described in 18 AAC 50.220;

- b. material balance calculations;
  - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
  - d. other methods and calculations approved by the department.
47. **Assessable Emissions Estimates.** Emission fees will be assessed as follows:
- 47.1 no later than March 31 of each year, the permittee may submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Suite 303, Juneau, AK 99801-1795; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates; or
  - 47.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set out in condition 46.1

**K. Approval to install Soil Vapor Extraction Systems and Thermal Oxidation Units.**

48. Approval to install soil vapor extraction systems LTF SVE and SI SVE.
- 48.1 Install thermal oxidation emission control unit on LTF SVE and SI SVE for normal operation.
  - 48.2 Operate LTF SVE and SI SVE with no direct atmospheric venting.
  - 48.3 Operate in accordance with the requirements of Conditions 49.1.
49. Approval to install thermal oxidation units: LTF SVE TO, SI SVE TO, and E77 SVE TO.
- 49.1 Maintain a setpoint temperature of at least 1500°F in the thermal oxidation unit. When the temperature is less than the setpoint, discontinue air sparging until thermal oxidation unit achieves minimum setpoint temperature.
  - 49.2 Limit thermal oxidation unit production rate to ensure a residence time of at least 0.5 seconds.
  - 49.3 Fire only natural gas with fuel sulfur content not to exceed the limit established in Exhibit B part E.
  - 49.4 Perform a visible emissions assessment in accordance with Condition 19 within 10 operating days of initial startup of each oxidizer.

## EXHIBIT A: Source Inventory

This permit authorizes the permittee to operate the following stationary sources and any other existing stationary source with a rated capacity of less than 1 million British thermal units per hour (MM Btu/hr). The design rating, capacity, or throughput is set out in this Exhibit only for the purpose of aiding in the identification of the sources.

Permittee must notify the department before installing any new equipment of any size so the department can determine the applicability of State and federal regulations. Units italicized below were installed before June 1, 1975, and are not required to comply with the Prevention of Significant Deterioration (PSD) program.

| <b>ID Number</b> | <b>Equipment</b>                    | <b>Year Installed</b> | <b>Design Capacity<br/>MMBtu/hr</b> |
|------------------|-------------------------------------|-----------------------|-------------------------------------|
| <i>H 101A</i>    | <i>Crude heater</i>                 | <i>1969</i>           | 140.0                               |
| H 101B           | Crude heater                        | 1977                  | 165.0                               |
| <i>H 201</i>     | <i>Powerformer preheaters</i>       | <i>1975</i>           | 31.8                                |
| <i>H 202</i>     | <i>Powerformer preheaters</i>       | <i>1975</i>           | 51.0                                |
| <i>H 203</i>     | <i>Powerformer preheaters</i>       | <i>1975</i>           | 27.9                                |
| H 204            | Powerformer reheater                | 1980                  | 53.8                                |
| H 205            | Powerformer reheater                | 1980                  | 48.8                                |
| H 401            | Hydrocracker recycle gas heater     | 1981                  | 38.9                                |
| H 402            | Hydrocracker recycle gas heater     | 1981                  | 38.0                                |
| H 403            | Hydrocracker fractionator reboiler  | 1997                  | 50.0                                |
| H 404            | Hydrocracker stabilizer reboiler    | 1981                  | 64.4                                |
| <i>H 609</i>     | <i>Hot oil heater</i>               | <i>1969</i>           | 56.0                                |
| H 612            | Residual oil heater                 | 1985                  | 22.2                                |
| <i>H 701</i>     | <i>Fired Steam Generator</i>        | <i>1969</i>           | 36.55                               |
| <i>H 702</i>     | <i>Fired steam generator</i>        | <i>1969</i>           | 36.55                               |
| H 704            | Natural Gas supply heater           | 1985                  | 2.0                                 |
| H 801            | Fired steam generator               | 1980                  | 32.0                                |
| H 802            | Hot glycol heater                   | 1981                  | 10.8                                |
| H 1001           | Hydrogen reformer furnace           | 1985                  | 152.3                               |
| H 1101           | Reaction furnace burner             | 1985                  | 5.2                                 |
| H 1102           | #1 Reheater                         | 1985                  | 1.65                                |
| H 1103           | #1 Reheater                         | 1985                  | 1.15                                |
| H 1104           | #1 Reheater                         | 1985                  | 1.05                                |
| H 1105           | Tail Gas Burner                     | 1985                  | 2.00                                |
| H 1106           | #4 Reheater                         | 1985                  | 1.90                                |
| H 1201/1203      | PRIP absorber feed furnace          | 1986                  | 10.4                                |
| H 1202           | PRIP Recycle H <sub>2</sub> Furnace | 1986                  | 11.2                                |
| H 1701           | Vacuum Unit Heater                  | 1994                  | 91.0                                |
| GT 1400          | Solar Centaur Gas/LPG Turbine       | 1988                  | 50.9                                |
| E 1400           | Duct burner for steam generation    | 1988                  | 36.5                                |

| <b>ID Number</b> | <b>Equipment</b>                      | <b>Year Installed</b> | <b>Design Capacity<br/>MMBtu/hr</b> |
|------------------|---------------------------------------|-----------------------|-------------------------------------|
| GT 1410          | Solar Centaur Gas Turbine             | 1988                  | 50.9                                |
| E 1410           | Duct burner for steam generation      | 1988                  | 36.5                                |
| J 801            | Refinery flare                        | 1981                  | 1.0                                 |
| EG 704           | Electric generator CAT 3412 (500 kW)  | 1989                  | 4.8                                 |
| EG 801           | Stewart-Stevenson generator (580 kW)  | 1980                  | 6.1                                 |
| P 605 A          | North Caterpillar (Cat G 399; 830 HP) | 1969                  | 5.6                                 |
| P 605 B          | South Caterpillar (Cat G 399; 830 HP) | 1969                  | 5.6                                 |
| P 708 A          | North Cummins NHS6-IF (290 HP)        | 1969                  | 2.0                                 |
| P 708 B          | South Cummins NHS6-IF (290 HP)        | 1969                  | 2.0                                 |
| P 708 C          | Upper tank farm Cat 3412DT (660 HP)   | 1990                  | 4.3                                 |
| P 719 C          | Cooling tower Cat G333 (140 HP)       | 1969                  | 1.1                                 |
| H650             | Asphalt Heater                        | 2002                  | 4.23                                |
| E77 SVE TO       | E77 SVE Thermal Oxidation Unit        | 2002                  | 0.5                                 |
| LTF SVE TO       | LTF SVE Thermal Oxidation Unit        | 2002                  | 2.0                                 |
| SI SVE TO        | SI SVE Thermal Oxidation Unit         | 2002                  | 0.5                                 |

| <b>ID Number</b> | <b>Equipment</b>                 | <b>Year Installed</b> | <b>Capacity no ID</b> |
|------------------|----------------------------------|-----------------------|-----------------------|
| No ID #          | Sulfur recovery unit (SRU)       | 1985                  | 19.3 LTPD             |
| AS 1310          | Surface impoundment air stripper | 1990                  | 4,450 acfm            |
| AS 1320          | Phillips/Marathon air stripper   | 1990                  | 12,500 acfm           |
| E77 SVE          | Soil Vapor Extraction Unit       | 2001                  | 100 scfm              |
| LTF SVE          | Soil Vapor Extraction Unit       | 2002                  | 400 scfm              |
| SI SVE           | Soil Vapor Extraction Unit       | 2002                  | 100 scfm              |

**Storage Tanks**

| <b>ID Number</b> | <b>Equipment<sup>1</sup></b>                | <b>Capacity (bbl)</b> |
|------------------|---|-----------------------|
| 03               | DFA Storage Tank                            | 25                    |
| 04A              | Slop Oil Storage Tank – floating roof       | 320                   |
| 04B              | Slop Oil Storage Tank – floating roof       | 500                   |
| 04C              | Slop Oil Storage Tank – floating roof       | 3,000                 |
| 04D              | Wastewater Storage Tank                     | 2700                  |
| 06               | Anti-icing Agent Storage Tank               | 50                    |
| 07               | Anti-icing Agent Storage Tank               | 322                   |
| 08               | Ballast Water Storage Tank                  | 100,000               |
| 09               | Ballast Water Storage Tank                  | 1,000                 |
| 10               | LSR/Isomerase Storage Tank – floating roof  | 50,000                |
| 11               | Crude Oil Storage Tank – floating roof      | 50,000                |
| 12               | Jet A/Gasoline Storage Tank – floating roof | 300,000               |
| 13               | Crude Oil Storage Tank – floating roof      | 300,000               |

<sup>1</sup> These are typical representative tank services, but stored product identification can change over time. These should not be considered conditions of the permit.

| <b>ID Number</b> | <b>Equipment</b>                               | <b>Capacity (bbl)</b> |
|------------------|--|-----------------------|
| 14               | Crude Oil Storage Tank – floating roof         | 300,000               |
| 20               | Low Sulfur VTB Storage Tank                    | 223,000               |
| 22               | DFA/Jet A/DF2 Storage Tank                     | 100,000               |
| 23               | HVGO/VTB Storage Tank                          | 300,000               |
| 24               | Gas Oil Storage Tank                           | 50,000                |
| 25               | High Sulfur VTB Storage Tank                   | 425,000               |
| 30               | DF2/Jet A Storage Tank                         | 10,000                |
| 31               | DF2/DF1 Storage Tank                           | 15,000                |
| 32               | DFA/Jet A Storage Tank                         | 70,000                |
| 33               | Bunker/VTB Storage Tank                        | 15,000                |
| 34               | Firewater Tank                                 | 15,000                |
| 35               | DF2/DFA Storage Tank                           | 100,000               |
| 36               | DF2 Storage Tank                               | 200,000               |
| 37               | Cutter/Jet A Storage Tank                      | 100,000               |
| 39               | Hot Oil/Jet A Storage Tank                     | 5,000                 |
| 40               | Unleaded Gasoline Storage Tank – floating roof | 40,000                |
| 41               | Unleaded Gasoline Storage Tank – floating roof | 40,000                |
| 42               | Asphalt Storage Tank                           | 40,000                |
| 45               | Naphtha Storage Tank – floating roof           | 100,000               |
| 51               | Asphalt Storage Tank – floating roof           | 20,000                |
| 55               | Asphalt Storage Tank                           | 1,000                 |
| 57               | Asphalt Storage Tank                           | 1,000                 |
| 59               | Concentrate Storage Tank                       | 1,000                 |
| 60               | Gasoline Storage Tank – floating roof          | 15,000                |
| 61               | Jet B/Sidecut – floating roof                  | 10,000                |
| 62               | Gasoline Storage Tank – floating roof          | 50,000                |
| 63               | Gasoline Storage Tank – floating roof          | 50,000                |
| 64               | Gasoline Storage Tank – floating roof          | 100,000               |
| 65               | Gasoline Storage Tank – floating roof          | 100,000               |
| 66               | Gasoline Storage Tank – floating roof          | 100,000               |
| 70               | Butane Storage Tank                            | 20,000                |
| 80               | Propane Storage Tank                           | 5,000                 |
| 94               | Asphalt Mixing Tank                            | 1,000                 |
| 95               | Asphalt Mixing Tank                            | 1,000                 |
| 96               | Wastewater Surge Tank                          | 1,000                 |
| 97               | Asphalt Additive Storage Tank                  | 1,000                 |
| V-1400           | DFA Storage Tank                               | 140                   |

## **Exhibit B: Air contaminant emission limits, standards, fuel specifications, and operating limits**

Exhaust conditions must be in accordance with the information submitted in documents listed in Permit Documentation, unless otherwise specified in this Exhibit. Permittee must operate each source in compliance with the applicable emission standards specified in 18 AAC 50.040 and 50.055, and the emission limits, standards, fuel specifications, and operating limits listed below, whichever is more stringent. Unless otherwise specified, the emission limit specified is for each source in a class of sources or group of similar sources. **The tons per year is an estimate of emissions and shall not be used for compliance purposes, unless established as a limit through Best Available Control Technology or an owner-requested limit to avoid classification.**

### **A. Operating limits**

| <b>ID Number</b>              | <b>Equipment</b>   | <b>Operating limit per year</b>  |
|-------------------------------|--|--|
| EG 704                        | Electrical Generator Cat 3412                              | 200 hours  |
| EG 801                        | Stewart-Stevenson Generator                                | 200 hours  |
| H 612                         | Residual Oil Heater  | 125 hours  |
| P 605A/P 605B                 | North Caterpillar Cat G 399<br>South Caterpillar Cat G 399 | 1560 hours for<br>both units   |
| P 708A                        | North Cummins NHS6-IF                                      | 600 hours and unless there is<br>a fire, P 708A is prohibited<br>from operating when P 708B<br>is operating. |
| P 708B                        | South Cummins NHS6-IF                                      | 600 hours  |
| P 708C                        | Upper Tank Farm Cat 3412DT                                 | 600 hours  |
| P 719C                        | Cooling tower Cat G333                                     | 200 hours  |
| GT/E-1400                     | Solar Centaur Turbine & Duct Burner                        | 438 hours with diesel fuel   |
| GT/E-1410                     | Solar Centaur Turbine & Duct Burner                        | 438 hours with diesel fuel   |
| H 401, H 402,<br>H 403, H 404 | Hydrocracker Heaters/Reboilers                             | Not to exceed 6% O <sub>2</sub> as<br>measured in exhaust gas by<br>CEMs required in Exhibit C               |
| H 204, H 205                  | Powerformer Reheaters                                      | Not to exceed 7% O <sub>2</sub> as<br>measured in exhaust gas by<br>CEMs required in Exhibit C               |
| E77 SVE                       | Soil Vapor Extraction Unit                                 | Uncontrolled emissions<br>prohibited.  |
| SI SVE                        | Soil Vapor Extraction Unit                                 | Uncontrolled emissions<br>prohibited.  |
| SI SVE                        | Soil Vapor Extraction Unit                                 | Uncontrolled emissions<br>prohibited.  |



**B. Opacity**

All sources Not to exceed 20% opacity for more than 3 minutes in any one hour. Not to exceed 20% opacity averaged over any six consecutive minutes.

**C. Particulate Matter**

18 AAC 50.055(b)(1) Particulate matter from an industrial process or fuel-burning equipment may not exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

**C. Particulate matter**

| <b>ID Number</b> | <b>Equipment</b>                   | <b>Emission Factor</b> | <b>Estimated PM tpy</b> |
|------------------|------------------------------------|------------------------|-------------------------|
| <b>H 101A</b>    | <b>Crude Heater</b>                | <b>0.005 lb/MMBTU</b>  | <b>3.07</b>             |
| H 101B           | Crude Heater                       | 0.005 lb/MMBTU         | 3.61                    |
| H 201            | Powerformer Preheaters             | 0.005 lb/MMBTU         | 0.70                    |
| H 202            | Powerformer Preheaters             | 0.005 lb/MMBTU         | 1.12                    |
| H 203            | Powerformer Preheaters             | 0.005 lb/MMBTU         | 0.60                    |
| H 204            | Powerformer Reheater               | 0.005 lb/MMBTU         | 1.18                    |
| H 205            | Powerformer Reheater               | 0.005 lb/MMBTU         | 1.07                    |
| H 401            | Hydrocracker Recycle Gas Heater    | 0.005 lb/MMBTU         | 0.85                    |
| H 402            | Hydrocracker Recycle Gas Heater    | 0.005 lb/MMBTU         | 0.83                    |
| H 403            | Hydrocracker Fractionator Reboiler | 0.005 lb/MMBTU         | 1.10                    |
| H 404            | Hydrocracker Stabilizer Reboiler   | 0.005 lb/MMBTU         | 1.41                    |
| H 609            | Hot Oil Heater                     | 0.005 lb/MMBTU         | 1.23                    |
| H 612            | Residual Oil Heater                | 0.005 lb/MMBTU         | 0.01                    |
| H 701            | Fired Steam Generator              | 0.005 lb/MMBTU         | 0.8                     |
| H 702            | Fired Steam Generator              | 0.005 lb/MMBTU         | 0.8                     |
| H 704            | Natural Gas Supply Heater          | 0.005 lb/MMBTU         | 0.04                    |
| H 801            | Fired Steam Generator              | 0.005 lb/MMBTU         | 0.7                     |
| H 802            | Hot Glycol Heater                  | 0.005 lb/MMBTU         | 0.24                    |
| H 1001           | Hydrogen Reformer Furnace          | 0.005 lb/MMBTU         | 3.34                    |
| H 1101           | Reaction Furnace Burner            | 0.005 lb/MMBTU         | 0.11                    |
| H 1102           | #1 Reheater Startup Burner         | 0.005 lb/MMBTU         | 0.04                    |
| H 1103           | #2 Reheater Startup Burner         | 0.005 lb/MMBTU         | 0.03                    |
| H 1104           | #3 Reheater Startup Burner         | 0.005 lb/MMBTU         | 0.02                    |
| H 1105           | Tail Gas Burner                    | 0.005 lb/MMBTU         | 0.04                    |
| H 1106           | #4 Reheater                        | 0.005 lb/MMBTU         | 0.04                    |
| H 1701           | Vacuum Tower Heater                | 0.005 lb/MMBTU         | 1.99                    |
| H 1201/H1203     | PRIP Absorber Feed Furnace         | 0.005 lb/MMBTU         | 0.23                    |
| H 1202           | PRIP Recycle H2 Furnace            | 0.005 lb/MMBTU         | 0.25                    |
| GT-1400          | Solar Centaur Turbine (diesel)     | 0.0372 lb/MMBTU        | 0.41                    |
| GT-1400          | Solar Centaur Turbine (NG or LPG)  | 0.0140 lb/MMBTU        | 7.84                    |
| E - 1400         | Duct Burner                        | 0.0140 lb/MMBTU        | 2.24                    |

|   |                                   |                 |      |
|---|-----------------------------------|-----------------|------|
| GT - 1410   | Solar Centaur Turbine (diesel)    | 0.0372 lb/MMBTU | 0.41 |
| GT - 1410   | Solar Centaur Turbine (NG or LPG) | 0.014 lb/MMBTU  | 7.84 |
| E - 1410  | Duct Burner                       | 0.014 lb/MMBTU  | 2.24 |
| J 801   | Refinery Flare                    | 0.005 lb/MMBTU  | 0.02 |
| EG 704  | Electrical Generator Cat 3412     | 0.3627 lb/MMBTU | 0.15 |
| EG 801  | Stewart-Stevenson Generator       | 0.3627 lb/MMBTU | 0.19 |
| P 605 A   | North Caterpillar Cat G 399       | 0.005 lb/MMBTU  | 0.01 |
| P 605 B   | South Caterpillar Cat G 399       | 0.005 lb/MMBTU  | 0.01 |
| P 708 A   | North Cummins NHS6-IF             | 0.3627 lb/MMBTU | 0.19 |
| P 708 B   | South Cummins NHS6-IF             | 0.3627 lb/MMBTU | 0.19 |
| P 708 C   | Upper Tank Farm Cat 3412DT        | 0.3627 lb/MMBTU | 0.47 |
| P 719 C   | Cooling tower Cat G333            | 0.005 lb/MMBTU  | 0.01 |
| H 650   | Asphalt Heater                    | 0.005 lb/MMBtu  | 0.09 |
| E77 SVE TO  | E77 SVE Thermal Oxidation Unit    | 0.005 lb/MMBtu  | 0.01 |
| LTF SVE TO  | LTF SVE Thermal Oxidation Unit    | 0.005 lb/MMBtu  | 0.04 |
| SI SVE TO   | SI SVE Thermal Oxidation Unit     | 0.005 lb/MMBtu  | 0.01 |
| <b>Total Estimated PM<sub>10</sub> =47.82 tpy</b> |                                   |                 |      |

#### D. Oxides of nitrogen

| ID Number | Equipment                          | Emission limitation | Estimated NO <sub>x</sub> tpy |
|-----------|------------------------------------|---------------------|-------------------------------|
| H 101A    | Crude Heater                       | 0.25 lb/MMBTU       | 153.3                         |
| H 101B    | Crude Heater                       | 0.06 lb/MMBTU       | 43.4                          |
| H 201     | Powerformer Preheater              | 0.25 lb/MMBTU       | 34.8                          |
| H 202     | Powerformer Preheater              | 0.25 lb/MMBTU       | 55.8                          |
| H 203     | Powerformer Preheater              | 0.25 lb/MMBTU       | 30.6                          |
| H 204     | Powerformer Reheater               | 0.08 lb/MMBTU       | 18.9                          |
| H 205     | Powerformer Reheater               | 0.08 lb/MMBTU       | 17.1                          |
| H 401     | Hydrocracker Recycle Gas Heater    | 0.08 lb/MMBTU       | 13.6                          |
| H 402     | Hydrocracker Recycle Gas Heater    | 0.08 lb/MMBTU       | 13.3                          |
| H 403     | Hydrocracker Fractionator Reboiler | 0.06 lb/MMBTU       | 13.1                          |
| H 404     | Hydrocracker Stabilizer Reboiler   | 0.08 lb/MMBTU       | 22.6                          |
| H 609     | Hot Oil Heater                     | 0.25 lb/MMBTU       | 61.3                          |
| H 612     | Residual Oil Heater                | 0.14 lb/MMBTU       | 0.2                           |
| H 701     | Fired Steam Generator              | 0.14 lb/MMBTU       | 22.4                          |
| H 702     | Fired Steam Generator              | 0.14 lb/MMBTU       | 22.4                          |
| H 704     | Natural Gas Supply Heater          | 0.10 lb/MMBTU       | 0.9                           |
| H 801     | Fired Steam Generator              | 0.10 lb/MMBTU       | 14                            |
| H 802     | Hot Glycol Heater                  | 0.10 lb/MMBTU       | 4.7                           |
| H 1001    | Hydrogen Reformer Furnace          | 0.08 lb/MMBTU       | 53.4                          |
| H 1101    | Reaction Furnace Burner            | 0.14 lb/MMBTU       | 3.2                           |
| H 1102    | #1 Reheater Startup Burner         | 0.14 lb/MMBTU       | 1                             |
| H 1103    | #2 Reheater Startup Burner         | 0.14 lb/MMBTU       | 0.7                           |
| H 1104    | #3 Reheater Startup Burner         | 0.14 lb/MMBTU       | 0.6                           |

|              |                                     |                          |      |
|--------------|-------------------------------------|--------------------------|------|
| H 1105       | Tail Gas Burner                     | 0.14 lb/MMBTU            | 1.2  |
| H 1106       | #4 Reheater                         | 0.14 lb/MMBTU            | 1.2  |
| H 1701       | Vacuum Tower Heater                 | 0.06 lb/MMBTU            | 23.9 |
| H 1201/1203  | PRIP Absorber Feed Furnace          | 0.10 lb/MMBTU            | 4.6  |
| H 1202       | PRIP Recycle H2 Furnace             | 0.10 lb/MMBTU            | 4.9  |
| GT/E - 1400  | Solar Centaur Turbine & Duct Burner | 11.3 lb/hr (Natural Gas) | 50.2 |
| GT/E - 14101 | Solar Centaur Turbine & Duct Burner | 11.3 lb/hr (Natural Gas) | 50.2 |
| EG 704       | Electrical Generator Cat 3412       | 3.10 lb/MMBTU            | 1.5  |
| EG 801       | Stewart-Stevenson Generator         | 3.10 lb/MMBTU            | 1.9  |
| P 605 A      | North Caterpillar Cat G 399         | 3.20 lb/MMBTU            | 7    |
| P 605 B      | South Caterpillar Cat G 399         | 3.20 lb/MMBTU            | 7    |
| P 708 A      | North Cummins NHS6-IF               | 4.41 lb/MMBTU            | 2.6  |
| P 708 B      | South Cummins NHS6-IF               | 4.41 lb/MMBTU            | 2.6  |
| P 708 C      | Upper Tank Farm Cat 3412DT          | 3.10 lb/MMBTU            | 4    |
| P 719 C      | Cooling tower Cat G333              | 3.20 lb/MMBTU            | 0.4  |
| H650         | Asphalt Heater                      | 0.14 lb/MM Btu           | 2.59 |
| E77 SVE TO   | E77 SVE Thermal Oxidation Unit      | 0.14 lb/MM Btu           | 0.31 |
| LTF SVE TO   | LTF SVE Thermal Oxidation Unit      | 0.14 lb/MM Btu           | 1.23 |
| SI SVE TO    | SI SVE Thermal Oxidation Unit       | 0.14 lb/MM Btu           | 0.31 |

**Total Estimated NO<sub>x</sub> = 768.94 tpy**

#### **E. Sulfur dioxide and hydrogen sulfide**

##### **1. Fuel sulfur limits as listed below:**

Diesel fuel--0.35% sulfur

Natural Gas—0.01% sulfur

Liquefied petroleum gas—0.01% sulfur

Refinery Gas--162 ppmv H<sub>2</sub>S

##### **2. All fuel burning equipment and fired on Refinery Gas:**

Limit is 230 mg H<sub>2</sub>S/dry standard cubic feet averaged over three hours.

##### **3. All fuel burning equipment not fired on Refinery Gas:**

Limit is 500 ppm SO<sub>2</sub>, averaged over three hours.

##### **4. All fuel burning equipment fired on a combination of Refinery Gas and other fuel.**

A prorated concentration of limits 2 and 3.

#### **E. Sulfur dioxide and hydrogen sulfide**

| <b>ID Number</b> | <b>Equipment</b>      | <b>Fuel Type</b>                                       | <b>Estimated SO<sub>2</sub> tpy</b> |
|------------------|-----------------------|--|-------------------------------------|
| H 101A           | Crude Heater          | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 16.50                               |
| H 101B           | Crude Heater          | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 19.45                               |
| H 201            | Powerformer Preheater | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 3.75                                |
| H 202            | Powerformer Preheater | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 6.01                                |
| H 203            | Powerformer Preheater | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 3.29                                |

|             |                                     |  |       |
|-------------|-------------------------------------|--|-------|
| H 204       | Powerformer Reheater                | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 6.34  |
| H 205       | Powerformer Reheater                | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 5.75  |
| H 401       | Hydrocracker Recycle Gas Heater     | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 4.58  |
| H 402       | Hydrocracker Recycle Gas Heater     | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 4.48  |
| H 403       | Hydrocracker Fractionator Reboiler  | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 5.89  |
| H 404       | Hydrocracker Stabilizer Reboiler    | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 7.59  |
| H 609       | Hot Oil Heater                      | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 6.60  |
| H 612       | Residual Oil Heater                 | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 0.04  |
| H 701       | Fired Steam Generator               | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 4.31  |
| H 702       | Fired Steam Generator               | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 4.31  |
| H 704       | Natural Gas Supply Heater           | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 0.24  |
| H 801       | Fired Steam Generator               | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 3.77  |
| H 802       | Hot Glycol Heater                   | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 1.27  |
| H 1001      | Hydrogen Reformer Furnace           | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 17.95 |
| H 1101      | Reaction Furnace Burner             | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 0.61  |
| H 1102      | #1 Reheater Startup Burner          | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 0.19  |
| H 1103      | #2 Reheater Startup Burner          | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 0.14  |
| H 1104      | #3 Reheater Startup Burner          | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 0.12  |
| H 1105      | Tail Gas Burner                     | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 0.24  |
| H 1106      | #4 Reheater                         | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 0.22  |
| H 1701      | Vacuum Tower Heater                 | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 10.73 |
| H 1201/1203 | PRIP Absorber Feed Furnace          | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 1.23  |
| H 1202      | PRIP Recycle H2 Furnace             | RG <sup>2</sup> , LPG <sup>3</sup> and NG <sup>4</sup> | 1.32  |
| GT/E - 1400 | Solar Centaur Turbine & Duct Burner | LPG, NG or diesel                                      | 10.1  |
| GT/E - 1410 | Solar Centaur Turbine & Duct Burner | LPG, NG or diesel                                      | 10.1  |
| J 801       | Refinery Flare                      | Natural Gas  | 0.1   |
| EG 704      | Electrical Generator Cat 3412       | Diesel   | 0.2   |
| EG 801      | Stewart-Stevenson Generator         | Diesel   | 0.2   |
| P 605 A     | North Caterpillar Cat G 399         | Natural Gas  | 0.1   |
| P 605 B     | South Caterpillar Cat G 399         | Natural Gas  | 0.1   |
| P 708 A     | North Cummins NHS6-IF               | Diesel   | 0.2   |
| P 708 B     | South Cummins NHS6-IF               | Diesel   | 0.2   |
| P 708 C     | Upper Tank Farm Cat 3412DT          | Diesel   | 0.5   |
| P 719 C     | Cooling tower Cat G333              | Natural Gas  | 0.1   |
| no ID       | Sulfur Recovery Unit                | n/a  | 14.4  |
| H650        | Asphalt Heater                      | Natural Gas  | 0.3   |
| E77 SVE TO  | E77 SVE Thermal Oxidation Unit      | Natural Gas  | 0.04  |
| LTF SVE TO  | LTF SVE Thermal Oxidation Unit      | Natural Gas  | 0.14  |
| SI SVE TO   | SI SVE Thermal Oxidation Unit       | Natural Gas  | 0.04  |

**Total Estimated SO<sub>2</sub> =173.74 tpy**

<sup>2</sup>RG—Refinery Gas (162 ppm H<sub>2</sub>S)

<sup>3</sup>NG—Liquefied Petroleum gas

<sup>4</sup>NG—Natural Gas

**F. Carbon monoxide**

| <b>ID Number</b> | <b>Equipment</b>                   | <b>Emission limitation</b> | <b>Estimated CO tpy</b> |
|------------------|------------------------------------|----------------------------|-------------------------|
| H 101A           | Crude Heater                       | 0.040 lb/MMBTU             | 24.5                    |
| H 101B           | Crude Heater                       | 0.040 lb/MMBTU             | 28.9                    |
| H 201-203        | Powerformer Preheaters (3)         | 0.035 lb/MMBTU             | 17                      |
| H 204            | Powerformer Reheater               | 0.035 lb/MMBTU             | 8.2                     |
| H 205            | Powerformer Reheater               | 0.035 lb/MMBTU             | 7.5                     |
| H 401            | Hydrocracker Recycle Gas Heater    | 0.035 lb/MMBTU             | 6                       |
| H 402            | Hydrocracker Recycle Gas Heater    | 0.035 lb/MMBTU             | 5.8                     |
| H 403            | Hydrocracker Fractionator Reboiler | 0.035 lb/MMBTU             | 7.7                     |
| H 404            | Hydrocracker Stabilizer Reboiler   | 0.035 lb/MMBTU             | 9.9                     |
| H 609            | Hot Oil Heater                     | 0.035 lb/MMBTU             | 8.6                     |
| H 612            | Residual Oil Heater                | 0.035 lb/MMBTU             | 0.1                     |
| H 701            | Fired Steam Generator              | 0.035 lb/MMBTU             | 5.6                     |
| H 702            | Fired Steam Generator              | 0.035 lb/MMBTU             | 5.6                     |
| H 704            | Natural Gas Supply Heater          | 0.020 lb/MMBTU             | 0.2                     |
| H 801            | Fired Steam Generator              | 0.035 lb/MMBTU             | 4.9                     |
| H 802            | Hot Glycol Heater                  | 0.035 lb/MMBTU             | 1.7                     |
| H 1001           | Hydrogen Reformer Furnace          | 0.040 lb/MMBTU             | 26.7                    |
| H 1101           | Reaction Furnace Burner            | 0.035 lb/MMBTU             | 0.8                     |
| H 1102           | #1 Reheater                        | 0.035 lb/MMBTU             | 0.3                     |
| H 1103           | #2 Reheater                        | 0.035 lb/MMBTU             | 0.2                     |
| H 1104           | #3 Reheater                        | 0.035 lb/MMBTU             | 0.2                     |
| H 1105           | Tail Gas Burner                    | 0.035 lb/MMBTU             | 0.3                     |
| H 1106           | #4 Reheater                        | 0.035 lb/MMBTU             | 0.3                     |
| H 1701           | Vacuum Tower Heater                | 0.035 lb/MMBTU             | 14                      |
| H 1201/1203      | PRIP Absorber Feed Furnace         | 0.020 lb/MMBTU             | 0.9                     |
| H 1202           | PRIP Recycle H2 Furnace            | 0.040 lb/MMBTU             | 2                       |
| GT/E - 1400      | Solar Centaur Turbine&Duct Burner  | 5.5 lb/hr                  | 24.1                    |
| GT/E - 1410      | Solar Centaur Turbine&Duct Burner  | 5.5 lb/hr                  | 24.1                    |
| J 801            | Refinery Flare                     | 0.040 lb/MMBTU             | 0.2                     |
| EG 704           | Electrical Generator Cat 3412      | 0.810 lb/MMBTU             | 0.4                     |
| EG 801           | Stewart-Stevenson Generator        | 0.810 lb/MMBTU             | 0.5                     |
| P 605 A          | North Caterpillar Cat G 399        | 0.420 lb/MMBTU             | 0.9                     |
| P 605 B          | South Caterpillar Cat G 399        | 0.420 lb/MMBTU             | 0.9                     |
| P 708 A          | North Cummins NHS6-IF              | 0.950 lb/MMBTU             | 0.6                     |
| P 708 B          | South Cummins NHS6-IF              | 0.950 lb/MMBTU             | 0.6                     |
| P 708 C          | Upper Tank Farm Cat 3412DT         | 0.810 lb/MMBTU             | 1                       |
| P 719 C          | Cooling tower Cat G333             | 0.420 lb/MMBTU             | 0.1                     |
| H650             | Asphalt Heater                     | 0.035 lb/MM Btu            | 0.65                    |
| E77 SVE TO       | E77 SVE Thermal Oxidation Unit     | 0.035 lb/MM Btu            | 0.08                    |
| LTF SVE TO       | LTF SVE Thermal Oxidation Unit     | 0.035 lb/MM Btu            | 0.31                    |

SI SVE TO      SI SVE Thermal Oxidation Unit      0.035 lb/MM Btu      0.08  
**Total Estimated CO =242.42 tpy**

**G. Benzene, toluene, and xylene**

| <b>ID Number</b> | <b>Equipment</b>               | <b>Emission limitation</b> |
|------------------|--------------------------------|----------------------------|
| AS 1310          | Surface Impond Air Stripper    | 0.24 mg/sec                |
| AS 1320          | Phillips/Marathon Air Stripper | 0.94 mg/sec                |

## EXHIBIT C: Process Monitoring Requirements

Permittee must install, calibrate, operate, and maintain in good working order air contaminant emissions and process monitoring equipment on the sources described below. Instrument siting, operation, and maintenance procedures must be approved by the department and conform to the applicable sections of 18 AAC 50.520(a) and 40 CFR Part 60, Appendix B. A Quality Assurance Plan must be developed for each continuous emission monitor required by this permit conforming with 40 CFR Part 60, Appendix F, and *The Quality Assurance Handbook for Air Pollution Measurement Systems*, Volume III, Sections 3.0.4, 3.0.7, 3.0.9, and 3.0.10 (EPA600/4-77-027b).

An alternate monitoring plan may be proposed by the permittee for approval by the department as set out in Condition 20, if it can be shown to accurately ensure continuous compliance with the emission limits and permit conditions.

### Process heaters

| Monitored Source and Parameter | Installation and reporting requirement  |
|--------------------------------|---|
| Sulfur dioxide                 | If monitor is installed pursuant to 40 CFR Part 60, Subpart J, report the weekly averaged concentration to the nearest 5 ppm. Report the date, time, duration, and average sulfur dioxide concentration for any period the average concentration exceeds that level of sulfur dioxide emissions equivalent to 230 mg/dscm hydrogen sulfide for three hours or more.   |
| Hydrogen sulfide               | Determine the sulfur content as (H <sub>2</sub> S) of the Refinery Gas (process gas) burned as fuel daily, using the Del Mar Scientific Model 3100 SulfurSmart H <sub>2</sub> S Analyzer, ASTM D 4810-88, ASTM D 4913-89, or Gas Producers Association Method 2377-86. For Solar turbine fuels, determine the sulfur content as (H <sub>2</sub> S) of the natural gas burned as fuel using Gas Chromatograph / Mass Spectrometer analysis, ASTM D 4810-88, ASTM D 4913-89, or Gas Producers Association Method 2377-86. |
| Oxygen                         | Installed on sources: H 101A, H 101B, H 201, H 202, H 203, by permittee voluntarily (letter dated January 19, 1982); H 204, H 205, H 401,   |

H 402, H 403, H 404, required by EPA approval PSD-X80-07, dated March 10, 1980; and H 1001, H 1201/3, and H 1202, required by State permit 8312-AA002 dated June 15, 1984. Performance Specification 3, 40 CFR 60, Appendix B, or approved alternative. For sources H 204, H 205, H 401, H 402, H 403, H 404 only: Report monthly average concentration of the items listed above, and the maximum and minimum values to the nearest percent.

Sulfur recovery unit — tail gas burner (19.3 LTPD)

Monitored source and parameter

Installation and reporting requirement

Sulfur dioxide

Install a continuous monitoring system to measure sulfur dioxide consistent with 40 CFR Part 60, Subpart J and 40 CFR 60, Appendix B, Performance Specification 2. Sulfur Recovery Units rated at 20 long tons per day or less are not subject to the requirements of 40 CFR 60 Subpart J. Report weekly mean concentration to nearest 5 ppm and standard deviation. Report the date, time, duration, and average sulfur dioxide concentration for any period the mean concentration exceeds 250 ppm for twelve hours or more, or exceeds 500 ppm for three hours or more. Maintain and operate the monitor in accordance with 40 CFR Part 60, Appendix F.

Gas turbines (GT 1400 and 1410)

Monitored source and parameter

Installation and reporting requirement

Nitrogen oxides

Install a continuous monitoring system consistent with 40 CFR Part 60 Subpart GG to measure the water-to-fuel ratio. Report the date, duration, average water-to-fuel ratio, average fuel consumption, and gas turbine load for any period in which the hourly water-to-fuel ratio for a turbine unit falls below 0.8 lb of water per 1 lb of fuel, while operating at loads greater than 2.5 MW. Report the mean quarterly water-to-fuel ratio for each turbine



unit, based on periods of operation at loads greater than 2.5 MW.

Groundwater remediation air strippers (AS 1310 and 1320)

| Monitored source and parameter | Installation and reporting requirement  |
|--------------------------------|---|
| Aromatic hydrocarbons          | Determine the flow rate, and the concentration of purgeable aromatic hydrocarbons using Method 602, 40 CFR 136, Appendix A, in samples of the effluent of each air stripping unit once per month. Report the results of each determination.   |
| Benzene, toluene, and xylene   | Measure the total concentration of BTX in the exhaust from each operating carbon adsorption system, using a gas chromatograph. Report the concentration of BTX in each sample, and determine and report the mass emission rate of BTX from each air stripping unit. Continuously monitor the combustion bed temperature of the thermal oxidation unit. Monitor the inlet BTX concentration of the thermal oxidation unit monthly. |

Soil Vapor Extraction Systems and Thermal Oxidation Units

|           |   |
|-----------|---|
| Operation | Record the time and date that each unit starts and stops operation for Sources No. E77 SVE, E77 SVE TO, LTF SVE, LTF SVE TO, SI SVE, and SI SVE TO. |
|-----------|---|

Sources ID No. P 708 A and P 708 B

|           |  |
|-----------|--|
| Operation | Record the time and date that each unit starts and stops operation for Sources No. P 708 A and P 708 B |
|-----------|--|

## EXHIBIT D: Facility operating report

An Air Contaminant Emission Source Operating Report must be submitted to the Department of Environmental Conservation, Air Permit Program, 610 University Avenue, Fairbanks, AK 99709, quarterly by the 30th day of January, April, July, and October each year. This report must include the following information:

Name of firm  
Facility location  
Permit number

Report Period

Quarterly total (when indicated, report weekly or monthly data).

1. Days Operated, Number of Days

List the hours of operation per month and total hours of operation per calendar year for each of the following sources: EG 704, EG 801, H 612, P 605A, P 605B, P 708A, P 708B, P 708C, and P 719C. For GT/E 1400 and GT/E 1410 list the hours of operation per month and total hours of operation per calendar year while burning diesel fuel.

2. Production Crude throughput, barrels

3. Fuel consumption

a. Units H 101A&B, H 401, 402, 403 & 404, H 1001, H 1201/3 & 1202, GT 1400 & 1410, E 1400 & 1410

Indicate each type of fuel and the quantity burned in each source, expressed in the appropriate units.

b. Facility fuel consumption

Provide the total consumption of each fuel type at the facility for the quarter.

c. GT 1400 and 1410 gas turbine generator sets

Provide the date, duration, average water-to-fuel ratio, average fuel consumption, and gas turbine load for any period in which the hourly water-to-fuel ratio for a turbine unit falls below 0.8 lb of water per 1 lb of fuel, while operating at loads

- greater than 2.5 Mw. Report the mean quarterly water-to-fuel ratio for each turbine unit, based on periods of operation at loads greater than 2.5 Mw.
4. Fuel Gas Hydrogen Sulfide Content
- Monthly - high, low, and mean concentration in ppm and the standard deviation
5. Process Heater Exhaust Oxygen Content
- Monthly - average, maximum and minimum values to the nearest percent.
6. Sulfur Recovery Unit (19.3 LTPD)
- a. Days Operated
- b. Production
- c. Incinerator exhaust
- Number of Days  
Tons Sulfur  
Tabulation of the weekly mean (continuous monitoring) SO<sub>2</sub> concentration and mass emission rate (lb/hr), and quarterly standard deviation of the concentration.  
Attach a tabulation by date of those periods during which the mean SO<sub>2</sub> concentration exceeds 250 ppm for more than 12 hours or 500 ppm for more than 3 hours
7. Groundwater Remediation
- a. Air Stripping Units
- Flow rate and concentration of purgeable aromatic hydrocarbons of the liquid effluent streams in each air stripping unit, monthly.  
Concentration and mass emission rate of benzene, toluene, and xylene from each carbon vessel in operation, monthly. Daily average combustion bed temperature of the thermal oxidation unit. Date, time, and duration of operation during which the thermal oxidation unit's temperature is less than 1500°F and the reason for each incident.
8. Flare
- Hours flaring other than pilot gas.

9. Attach a summary of the excess emissions reports required by permit conditions and Exhibit E of this permit with a detailed description of equipment or operating conditions which may have adversely affected air contaminant emissions. Include such information as: date of incident, duration, nature of the occurrence, equipment failure, steps taken to minimize emissions, measures taken to avoid recurrence, and a general description of the weather. If no excess emissions have occurred during the reporting period, include a statement to that effect.
10. Report the results of each source test required by the department in the format outlined in Volume III, Section IV.3, of the State Air Quality Plan.
11. Signature of authorized agent preceded by the statement:

“I am familiar with the information contained in this report and, to the best of my knowledge and belief, such information is true, complete, and accurate.”

**EXHIBIT E: Permit Documentation**

|                   |   |
|-------------------|---|
| January 9, 1997   | Tesoro Construction Permit Application for Hydrocracker Expansion and transmittal letter.   |
| January 14, 1997  | Tesoro Ambient Air Quality Analysis for Hydrocracker Expansion and transmittal letter.  |
| January 21, 1997  | Tesoro Addendum to Construction Permit Application for Hydrocracker Expansion and transmittal letter.   |
| January 24, 1997  | EPA letter to Tesoro confirming that the Kenai Pipe Line Company is subject to petroleum refinery NESHAP and that both are considered a single plant site.                  |
| January 28, 1997  | Tesoro letter correcting emergency electrical generator EG801 firing capacity.  |
| January 28, 1997  | Tesoro revised Worksheets 3 and 4 showing revised emissions for reduced EG801 firing capacity and transmittal letter.   |
| January 28, 1997  | Tesoro Vendor Certification of low NO <sub>x</sub> Burners on Heaters H-101B and H403 and transmittal letter.   |
| January 28, 1997  | Tesoro revised Ambient Air Quality Analysis for Hydrocracker Expansion and transmittal letter.  |
| January 28, 1997  | Tesoro letter confirming extension of the stack for EG 801 will be completed by April 1, 1997.  |
| January 28, 1997  | Tesoro letter on applicable Federal Standards for the Hydrocracker Expansion Construction Permit.   |
| February 3, 1997  | ADEC letter to J. Haffner summarizing meeting notes and information transmitted during meeting of January 21, 1997.   |
| February 24, 1997 | Tesoro letter confirming the extension of the stack height of EG 801.   |
| March 14, 1997    | Tesoro vendor letter confirming change out of H1701 low NO <sub>x</sub> burners with new low NO <sub>x</sub> burners with a different flame pattern and transmittal letter. |
| June 11, 1997     | ADEC Technical Assessment and Response to Comments.   |

|                   |   |
|-------------------|---|
| January 29, 1998  | Tesoro transmittal letter for Construction Permit Application for Sulfur dioxide PSD modification.  |
| June 15, 1998     | Tesoro addendum to construction permit application in response to department comments.  |
| June 16, 1998     | Tesoro request to burn LSR in cogen turbines, allow thermal oxidizer at AS 1310 & 1320.   |
| July 9, 1998      | Department letter to M. Buell of Tesoro summarizing findings from application review and May 29, 1998 teleconference and requesting more information. |
| October 6, 1998   | Tesoro addendum to construction permit application in response to department's July 9, 1998 letter.   |
| December 7, 1998  | Department letter to M. Buell requesting additional permit-application information.   |
| December 29, 1998 | Memorandum and cover letter summarizing December 17, 1998 teleconference and outlining needed additional information.                                 |
| February 6, 1999  | Tesoro confidential response to department's December 29, 1998 information request.   |
| March 8, 1999     | Department response to Tesoro's February 6, 1999 response requesting additional information.  |
| March 10, 1999    | E-mail to department from Bud Rolofson of the National Park Service confirming Tesoro's modeled low impact on Tuxedni Wildlife Area.                  |
| March 15, 1999    | Tesoro's edited confidential response to department's December 29, 1998 and March 8, 1999 information request.  |
| March 16, 1999    | LORAX forwarded letter from Energy and Environment, Inc., regarding thermal oxidation and carbon adsorption control technologies.                     |
| March 22, 1999    | Department letter to Tesoro including memorandum analyzing Tesoro's past compliance with previously permitted BTX percent removal efficiency.         |
| April 1, 1999     | Tesoro's comments on the BTX percent removal efficiency memorandum.   |

|                    |  |
|--------------------|--|
| April 23, 1999     | Tesoro submittal of vendor information regarding thermal oxidizer.   |
| May 4, 1999        | Tesoro's letter stating they will analyze 3 initial samples from the thermal oxidizer.   |
| June 18, 1999      | Tesoro's letter to EPA outlining proposed changes being covered by this permit.  |
| June 18, 1999      | Tesoro's letter – EPA monitoring requirements for LSR & Sidecut, communication re: 40 CFR 60 subparts J and Db.  |
| June 25, 1999      | Tesoro's letter – Heater H1001 meets requirements of Subpart Db description of a process heater.   |
| July 16, 1999      | Memorandum summarizing July 15, 1999 meeting with Tesoro.  |
| July 21, 1999      | Department letter to Tesoro stating the permit application administratively complete.  |
| July 30, 1999      | Department letter to Tesoro summarizing a request for specifications on the air stripper unit's pumps and fans.  |
| August 17, 1999    | Tesoro letter stating the stripping towers was a replacement in-kind, and does not affect water and air flow rates.  |
| September 30, 1999 | Tesoro submitted Completed Coastal Project Questionnaire.  |
| October 26, 1999   | Tesoro letter withdrawing request to use LSR in the co-generation turbines GT-1400 and GT-1410.  |
| December 14, 1999  | Tesoro letter with comments on proposed permit action.   |
| January 25, 2000   | Tesoro letter with a certified description of AS 1310 as a closed loop system, correction of SRU as a 19.3 LTPD unit, and QA/QA procedures for monitoring air stripper units.  |
| August, 30 2000    | Permit No. 0023-AC010 to Kenai Pipeline Company for the construction of a firewater pumping station at the Kenai Pipeline (KPL) Facility. Documents modifications to Tesoro's facility, which includes the KPL Facility. |
| May13, 2002        | Letter from Marta Brenner (Tesoro) to Jim Baumgartner (ADEC). Application for Soil Vapor Extraction Systems.   |

|                    |   |
|--------------------|---|
| May 30, 2002       | Letter from Marta Brenner (Tesoro) to Jim Baumgartner (ADEC). Revised application for Soil Vapor Extraction Systems. Revision includes owner requested limit to address a modeled PM <sub>10</sub> NAAQS violation. |
| May 31, 2002       | Letter from Jim Baumgartner (ADEC) to Marta Brenner (Tesoro). Permit applicability determination for 4.23 MM Btu/hr. asphalt heater.  |
| July 9, 2002       | Letter from John Pinsonnault (consultant for Tesoro) to John Kajdan (ADEC). SVE Permit Application, Revised BPIP Data.  |
| September 26, 2002 | Letter from Marta Brenner (Tesoro) to John Kajdan (ADEC). Calculation of permitted limit for refinery gas hydrogen sulfide content.   |



**EXHIBIT F: Excess Emission Notification Form**Submit to: Facsimile: (907) 269-7508 Telephone: (907) 269-8888 Email: [airreports@envircon.state.ak.us](mailto:airreports@envircon.state.ak.us)

Company Name \_\_\_\_\_

Facility Name \_\_\_\_\_

**1. Event Information** (Use 24-hour clock):

END Time:

START Time:

Duration (hr:min):

Date: \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

Date: \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

Total: \_\_\_\_\_ : \_\_\_\_\_

**2. Cause of Event** (Check all that apply):☐ STARTUP☐ UPSET CONDITION☐ CONTROL☐ EQUIPMENT☐ SHUT DOWN☐ SCHEDULED MAINTENANCE☐ OTHER \_\_\_\_\_*Provide a detailed description of what happened. Attach additional sheets as necessary.***3. Sources Involved:***Identify each Emission Source involved in the event, using the same identification number and name as in the Permit. List any Control Device or Monitoring System affected by the event. Attach additional sheets as necessary.*

| Source ID No.<br>Device | Source Name | Description | Control |
|-------------------------|-------------|-------------|---------|
| _____                   | _____       | _____       | _____   |
| _____                   | _____       | _____       | _____   |

**4. Emission Standard Exceeded:***Identify each Emission Standard and Permit Condition exceeded during the event. Describe in detail, the extent to which each Standard or Condition was exceeded. List ALL known or suspected injuries or health impacts. Attach additional sheets as necessary.*

| Standard or Condition | Limit | Exceedence |
|-----------------------|-------|------------|
| _____                 | _____ | _____      |
| _____                 | _____ | _____      |

**5. Emission Reduction:***Describe in detail, ALL of the measures taken to minimize and/or control emissions during the event. Attach additional sheets as necessary.***6. Corrective Actions:***Describe in detail, ALL of the corrective actions taken to restore the system to normal operation. Attach additional sheets as necessary.*

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_